



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/676,206	10/01/2003	Soon-Gyu Hong	P/2292-80	9685

2352 7590 04/09/2004

OSTROLENK FABER GERB & SOFFEN
1180 AVENUE OF THE AMERICAS
NEW YORK, NY 100368403

EXAMINER

POKER, JENNIFER A

ART UNIT	PAPER NUMBER
----------	--------------

2832

DATE MAILED: 04/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/676,206

Applicant(s)

HONG ET AL.

Examiner

Jennifer A. Poker

Art Unit

2832

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

General Status

1. This is a first action on the merits of application filed on October 1, 2003. Claims 1-12 are pending and are being examined.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: “33” illustrated in figure 3C. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

4. Claim 12 is objected to because the preamble is not consistent with the preamble of the claim on which is dependant. Appropriate correction is required.
5. Claim 12 objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s),

Art Unit: 2832

or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

7. Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, applicant states, "...having a non-magnetic electrode layer and an inner magnetic layer..." in line 4. Applicant further states, "...a non-magnetic electrode layer with an opening at a center ..." in line 6, and states, "...an inner magnetic layer positioned at the center opening ..." in line 9. Examiner was unsure if the non-magnetic electrode layer and inner magnetic layer claimed in line 4 was the same non-magnetic layer as in line 6 and the same magnetic layer as in line 9. Examiner understood that they were the non-magnetic layers were the same, and the magnetic layers were the same.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 2832

9. Claims 1, 4, 6, 8, and 10-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Patent Number 09-260145 (U.S. Patent Number 6,388,551-as translation and reference purposes) to Morikawa.

Regarding claims 1, 4, and 6, Morikawa discloses a laminated transformer comprising:

- (1) an inner electrode layer having a dielectric layer (2e) and a conductive layer (2d, 5)
- (2) a dielectric layer (2e) having an opening at the center and having an electrode pattern surrounding the opening on a surface thereof;
- (3) a conductive layer (2d, 5) having a portion at the center opening and portions at lateral positions;
- (4) non-magnetic dielectric cover sheets made of a ceramic material at both top and bottom locations of the inner electrode layer (2a, 2f) (column 3, lines 39-40) ;
- (5) external electrodes (43-46) electrically connected to the inner electrode.

Claims 8 and 10 are the method counterpart to product claim 1 and method steps are therefore inherent for manufacturing a stacked coil device as claimed by the inventor. Morikawa further discloses via holes (41c) formed in a non-magnetic layer (2e) and sintering the stack body (figure 5; column 6, lines 16-17)

Regarding claim 11, Morikawa further discloses that the electrode patterns are formed by a sputtering method, a vapor deposition method, or a printing method (column 4, lines 38-40).

Regarding claim 12, even though the claims are limited by and defined by the recited process, the determination of patentability of the product is based on the product itself, and does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product or the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent Number 09-260145 (U.S. Patent Number 6,388,551-as translation and reference purposes) to Morikawa in view of U.S. Patent Number 6,293,001 to Uriu, et al.

Morikawa discloses a via hole (20c) in the center of the non-magnetic layer where the electrode layer is not provided and a second via hole (41c) provided within the electrode pattern (figure 4). The via holes electrically connect electrode patterns of different layers. Morikawa discloses the conductive material provided in the via holes.

Uriu, et al, discloses a lamination ceramic chip inductor including at least one pair of insulation layers; and at least one conductive pattern which is interposed between the at least one pair of insulation layers and forming a conductive coil. At least one conductive pattern includes a conductive pattern formed as a result of electroforming. A through hole is provided within the center layer wherein a printed thick film conductor (7) is preferably provided in the through-hole (4a) to connect the two conductive patterns in order to provide better ohmic electric connection (figure 13; column 9, lines 59-62).

One skilled in the art, at the time the invention was made, would have found it obvious to combine the teachings of Morikawa with the teachings of Uriu, et al, and fill a through hole with a

Art Unit: 2832

conductive element in order to connect the different conductive patterns and to provide better ohmic electric connection.

12. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent Number 09-260145 (U.S. Patent Number 6,388,551-as translation and reference purposes) to Morikawa in view of U.S. Patent Number 6,710,694 to Matsuta, et al.

Morikawa discloses the claimed invention except for the buffer layer.

Matsuta, et al, discloses a laminated body disposed on the first magnetic substrate and having insulating layers, coil patterns, and at least one through-hole, a layer covering the upper surface of the laminated body. Matsuta, et al, further discloses a nonmagnetic adhesive layer (30) having the size and shape of all other layers disposed on the magnetic layer (20) which has a function of joining the magnetic layer (20) to the second substrate (2) and also functions as a nonmagnetic zone between the magnetic layer (20) and the second substrate (2). Such a configuration provides stable inductance characteristics at high frequencies (figure 2; column 7, lines 53-57).

One skilled in the art, at the time the invention was made, would have found it obvious to combine the teachings of Morikawa, et al, with the teachings of Matsuta, et al, and create a non-magnetic zone between the cover substrate and the inner magnetic layers in order to provide stable inductance characteristics.

13. Claim 7 is rejected under 35 U.S.C. 103(a) as being obvious over Japanese Patent Number 09-260145 (U.S. Patent Number 6,388,551-as translation and reference purposes) to Morikawa.

Morikawa discloses the claimed invention except for the Ni-based material. It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize an

Art Unit: 2832

appropriate conductive material, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

14. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent Number 09-260145 (U.S. Patent Number 6,388,551-as translation and reference purposes) to Morikawa in view of U.S. Patent Number 6,362,947 to Chazono.

Morikawa discloses the claimed invention except for the use of a doctor blade tape casting method.

Chazono discloses a manufacturing method of the multilayer ceramic capacitor wherein ceramic green sheets are obtained from the use of a tape casting technique such as a doctor blade. This is one of many casting methods that may be utilized in order to create green sheets. Chazono illustrates that it has been known in the art to utilize doctor blade tape casting methods in order to form non-magnetic green sheets.

One skilled in the art, at the time the invention was made, would have found it obvious to combine the teachings of Morikawa with the teachings of Chazono and utilize a casting method such as doctor blade tape casting in order to create the non-magnetic green sheets.

Contact Information

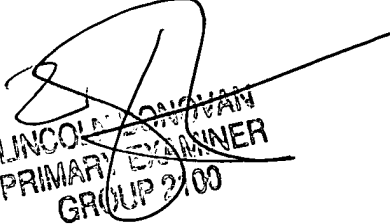
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A. Poker whose telephone number is 571-272-1997. The examiner can normally be reached on 5:30-4:00 Monday-Thursday.

Art Unit: 2832

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin G. Enad can be reached on 571-272-1990. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jap
March 31, 2004


LINCOLN LONGMAN
PRIMARY EXAMINER
GROUP 2:00